CLAIMS

We claim:

1. A closure for a container comprising:

a generally annular skirt including opposed outer and inner surfaces, the skirt including a generally planar upper surface and a ledge extending from the inner surface and disposed proximate the upper surface, the upper surface having a generally circular opening extending therethrough;

a generally circular and planar lid at least generally coextensive with the opening, having a top surface and a bottom surface; and

a living hinge connecting the upper surface of the skirt and the top surface of the lid and supporting the lid for movement between a closed position, wherein the upper surface of the skirt and the top surface of the lid are generally coplanar, with the bottom surface of the lid being in engagement with the ledge, and an open position, wherein the lid is pivoted away from the upper surface of the skirt to access the opening, wherein the hinge has a length between the upper surface of the skirt and the top surface of the lid which is substantially coplanar with the upper surface of the skirt and the top surface of the lid when the lid is in the closed position; and

a latch extending from the lid and being releaseably engaged with the outer surface of the skirt when the lid is in the closed position.

2. The closure of claim 1, wherein the length of the living hinge subtends an arc along a circumference of the lid, the arc being in the range of about 15 to 35 degrees.

3. The closure of claim 1, wherein the skirt, the hinge, the lid and the latch are formed as an integral, one-piece assembly.

4. The closure of claim 1, the outer surface further including a generally linear protrusion and a generally smooth area adjacent the protrusion on a side of the protrusion opposite from the upper surface, wherein the latch is generally L-shaped and has a first leg extending generally radially from the lid over the upper surface of the skirt and a second leg extending generally perpendicularly from the first leg such that the second leg is in facing relationship with the protrusion, the second leg including a generally linear indent extending radially into the second leg, the protrusion being complementarily received in the indent when the lid is in a closed position to releasably hold the lid in the closed position, and wherein the latch is released by application of force to the second leg to pull the indent out of engagement with the protrusion.

5. The closure of claim 1, the outer surface further including a generally linear indent and a generally smooth area adjacent the indent on a side of the indent opposite from the upper surface, wherein the latch is generally L-shaped and has a first leg extending generally radially from the lid over the upper surface of the skirt and a second leg extending generally perpendicularly from the first leg such that the second leg is in facing relationship with the indent, the second leg including a generally linear protrusion extending radially from the second leg, the protrusion being complementarily received in the indent when the lid is in a closed position to releasably hold the lid in the closed position, and wherein the latch is released by application of force to the second leg to pull the protrusion out of engagement with the indent.

6. The closure of claim 1, in combination with a container having an annular neck portion defining a neck opening having a neck opening area, wherein the skirt opening has an area substantially equal the container neck opening area.

7. A closure for a container comprising:

a generally annular skirt including outer and inner annular surfaces, the skirt further including an upper surface, the outer surface including a generally linear protrusion and a generally smooth area adjacent the protrusion on a side of the protrusion opposite from the upper surface, the upper surface having an opening extending therethrough;

a generally planar lid sized to complementarily fit within the opening and being pivotally mounted to the skirt for movement between a closed position which closes the opening and an open position which exposes the opening; and

a generally L-shaped latch extending from the lid having a first leg extending generally radially from the lid over the upper surface of the skirt and a second leg extending generally perpendicularly from the first leg such that the second leg is in facing relationship with the protrusion, the second leg including a generally linear indent extending radially into the second leg, the protrusion being complementarily received in the indent when the lid is in a closed position to releasably hold the lid in the closed position, and wherein the latch is released by application of force to the second leg to pull the indent out of engagement with the protrusion.

8. The closure of claim 7, wherein the skirt, the hinge, the lid and the latch are formed as an integral, one-piece assembly.

9. The closure of claim 7, wherein the generally smooth area is in the form of a generally planar recessed area in the outer surface.

10. The closure of claim 7, further comprising a tamper-evident member removably attached to the outer annular surface by at least one frangible member and positioned adjacent the protrusion to block access to the second end of the latch when the lid is in the closed position.

11. A combination container and closure system, comprising:

a container including an annular neck defining a container opening, the container opening defining a first area;

a closure including:

a generally annular skirt including an outer surface and an inner surface and the skirt further including an upper surface having a closure opening extending therethrough, the closure opening defining a second area, the first and second areas being substantially equal in size and shape;

a generally planar lid sized to complementarily fit within the closure opening and being pivotally mounted to the skirt for movement between a closed position which closes the opening and an open position which exposes the opening; and

a latch extending from the lid and being releaseably engaged with the skirt when the lid is in the closed position,

wherein an area of the closure opening is at least equal to an area of the container opening.

12. The combination of claim 11, wherein the skirt, the lid and the latch are formed as an integral, one-piece assembly.

13. The combination of claim 11, the outer surface further including a generally linear protrusion and a generally smooth area adjacent the protrusion on a side of the protrusion opposite from the upper surface, wherein the latch is generally L-shaped and has a first leg extending generally radially from the lid over the upper surface of the skirt and a second leg extending generally perpendicularly from the first leg such that the second leg is in facing relationship with the protrusion, the second leg including a generally linear indent extending radially into the second leg, the protrusion being complementarily received in the indent when the lid is in a closed position to releasably hold the lid in the closed position, and wherein the latch is released by application of force to the second leg to pull the indent out of engagement with the protrusion.

14. The combination of claim 11, the outer surface further including a generally linear indent and a generally smooth area adjacent the indent on a side of the indent opposite from the upper surface, wherein the latch is generally L-shaped and has a first leg extending generally radially from the lid over the upper surface of the skirt and a second leg extending generally perpendicularly from the first leg such that the second leg is in facing relationship with the indent, the second leg including a generally linear protrusion extending radially from the second leg, the protrusion being complementarily received in the indent when the lid is in a closed position to releasably hold the lid in the closed position, and wherein the latch is released by application of force to the second leg to pull the protrusion out of engagement with the indent.

15. The combination of claim 13, further comprising a tamper-evident member removably attached to the outer annular surface by at least one frangible member and positioned adjacent the protrusion to block access to the second end of the latch when the lid is in the closed position.

16. A closure for use with a container having an annular neck with an outer surface and a raised bead projecting radially from the outer surface, the raised bead having a first end and a second end and extending continuously between the first and second ends circumferentially around the neck, and a gap between the first and second ends extending over a first arc having a first length, the closure comprising:

a generally annular skirt including an outer surface and an inner surface, the skirt further including an upper surface and a lower surface, the upper surface having an opening extending therethrough, and a plurality of retaining members extending radially inwardly from the inner surface, each of the retaining members being spaced about a circumference of the skirt such that any 180 degree arc of the circumference contains at least one retaining member, and each of the retaining members extends over a second arc having a second length which is greater than the first length;

a generally planar lid having a top surface and a bottom surface and being sized to complementarily fit within the opening and being pivotally mounted to the skirt by a hinge connecting the upper surface of the skirt and the top surface of the lid for movement between a closed position which closes the opening and an open position which exposes the opening; and

a latch extending from the lid and being releaseably engaged with the skirt when the lid is in the closed position,

wherein the closure is snapped onto the neck of the container such that the bead is positioned between the retaining members and the upper surface and is retained to the container by an interference between the retaining members and the raised bead, the interference preventing the closure from being removed from the container.

17. The closure of claim 16, wherein the skirt, the lid and the latch are formed as an integral, one-piece assembly.

18. The closure of claim 16, the skirt further including a ledge extending from the inner surface and disposed proximate the upper surface, wherein in the closed position, the upper surface of the skirt and the top surface of the lid are generally coplanar, with the bottom surface of the lid being in engagement with the ledge, and wherein the hinge has a length between the upper surface of the skirt and the top surface of the lid which is substantially coplanar with the upper surface of the skirt and the top surface of the lid when the lid is in the closed position.

19. The closure of claim 16, the outer surface further including a generally linear protrusion and a generally smooth area adjacent the protrusion on a side of the protrusion opposite from the upper surface, wherein the latch is generally L-shaped and has a first leg extending generally radially from the lid over the upper surface of the skirt and a second leg extending generally perpendicularly from the first leg such that the second leg is in facing relationship with the protrusion, the second leg including a generally linear indent extending radially into the second leg, the protrusion being received in the indent when the lid is in a closed position to releasably hold the lid in the closed position, and wherein the latch is released by application of force to the second leg to pull the indent out of engagement with the protrusion.

20. The closure of claim 19, further comprising a tamper-evident member removably attached to the outer annular surface and positioned adjacent the protrusion to block access to the second end of the latch when the lid is in the closed position.

21. The closure of claim 16, the container having a container neck opening having a container neck opening area, wherein the closure skirt opening has an area at least equal to the container neck opening area.

22. A combination of a closure and a container, comprising:

the container having an annular neck with an outer surface and a raised bead projecting radially from the outer surface, the raised bead having a first end and a second end and extending continuously between the first and second ends circumferentially around the neck, and a gap between the first and second ends extending over a first arc having a first length;

the closure, comprising:

a generally annular skirt including an outer surface and an inner surface, the skirt further including an upper surface and a lower surface, the upper surface having an opening extending therethrough, and a plurality of retaining members extending radially inwardly from the inner surface, each of the retaining members being spaced about a circumference of the skirt such that any 180 degree arc of the circumference contains at least one retaining member, and each of the retaining members extends over a second arc having a second length which is greater than the first length;

a generally planar lid having a top surface and a bottom surface and being sized to complementarily fit within the opening and being pivotally mounted to the skirt by a hinge connecting the upper surface of the skirt and the top surface of the lid for movement between a closed position which closes the opening and an open position which exposes the opening; and

a latch extending from the lid and being releaseably engaged with the skirt when the lid is in the closed position,

wherein the closure is snapped onto the neck of the container such that the bead is positioned between the retaining members and the upper surface and is retained to the container by an interference between the retaining members and the raised bead, the interference preventing the closure from being removed from the container.